

THE ENVIRONMENTAL STYLE

WRITING ENVIRONMENTAL ASSESSMENTS AND IMPACT STATEMENTS

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In his introduction to William Strunk's classic on writing, The Elements of Style, E. B. White described the plight of those who read many of our NEPA documents:

Will [Strunk] felt that the reader was in serious trouble most of the time, a man foundering in a swamp, and that it was the duty of anyone attempting to write English to drain this swamp quickly and get this man on dry ground, or at least throw him a rope. In revising text, I have tried to hold steadily in mind a belief of his, this concern for the bewildered reader.

The Department and its contractors need to hold in their minds the women and men – decision makers, citizens, regulators and judges – who slog through our environmental assessments and impact statements. All too often, these documents are filled with technical information overgrown with a thicket of bureaucratic jargon. In these documents, the Department never seems to do anything. Instead, “implementation plans are developed” by unidentified entities in response to vague “changes in mission priorities” and “initiated in a multiphase process with the objective of interacting and/or interfacing with stakeholders on their implementability.”

Our NEPA documents must be well reasoned and well written. EISs and EAs are in essence attempts to predict the future. By its very nature, predicting the future is difficult. Our documents should acknowledge that difficulty and then clearly set out how the Department went about doing it. In making these predictions, DOE must assume many things about its missions, the alternative ways of accomplishing those missions and the potential environmental impacts of each of the alternatives. The Department's EISs and EAs must clearly set out and support these assumptions so that readers can understand what we did and evaluate how we did it.

Of course, the first step in writing a good EIS or EA is complying with NEPA's requirements. NEPA requires that DOE identify and assess the range of reasonable alternatives for achieving an objective before selecting an alternative. The following guidelines may help you in taking that first step.

1. Determine and confirm that all proposed actions have appropriate NEPA coverage. The work of the Department of Energy has changed fundamentally in the last 15 years and will continue to do so. One of the largest aspects of that change is the transition from producing nuclear weapons to cleaning up the legacy of their production and ensuring the

safety and reliability of the existing arsenal. Not surprisingly, this radical change in the Department's mission requires that DOE solve new problems. Through the NEPA process, DOE evaluates the environmental impacts of alternative solutions, providing information that should improve the Department's decisions on which alternatives to pursue.

Unfortunately, the need to start work immediately on many of these challenges has led on occasion to cursory NEPA analyses. Such analyses do not improve our decisions and often mire the Department in litigation. Everyone involved in the consideration of proposals for action by the Department should confirm that the proposal includes appropriate and timely NEPA coverage: an EIS, EA, categorical exclusion (CX), or ongoing activity exemption. Claims of NEPA coverage that rely on CXs, ongoing activity exemptions or findings of no significant impact (FONSI) should receive careful scrutiny. Guidance on the use of FONSI can be found at 40 C.F.R. § 1508.13, 10 C.F.R. § 1021.322, and 57 Fed. Reg. 15,128 (1992) (DOE, NEPA Implementing Procedures and Guidelines Revocation; Final Rule and Notice). Guidance on the use of CXs is located at 40 C.F.R. § 1508.4, 10 C.F.R. § 1021.410, and 57 Fed. Reg. 15,130-44. For guidance on the exemption for ongoing activities – activities that commenced before NEPA was enacted on January 1, 1970 – see Public Service Company v. Andrus, 825 F. Supp. 1483, 1499-502 (D. Idaho 1993).

2. Prepare an explicit statement of the purpose and need for Department action as soon as possible. EISs and EAs must specify the underlying need that is motivating the Department to action. In other words, NEPA documents should set out the problem for which the Department is seeking a solution. The “Green Book,” Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements (Office of NEPA Policy and Compliance, December 2004), provides detailed guidance on preparing this statement. As the Green Book points out on page 5, this statement “should reflect the goals to be achieved by the statutory authority or programmatic mission under which DOE is proposing to act (i.e., an explanation of *why* agency action is needed.” It “is not a justification of what DOE proposes to do (i.e., it is not a rationale for a proposed action or preferred alternative) nor is it an explanation why DOE is preparing an EA or EIS (i.e., it is not to comply with NEPA).”

Accordingly, a statement that “the purpose of preparing this EIS is to comply with NEPA” (so that DOE can complete the waste management facility it has already started) is improper and sets the wrong tone. The purpose would be to manage wastes in compliance with environmental requirements, and the purpose and need statement should describe both the wastes and the requirements in some detail. The waste management facility might be the Department's proposed action, and the EIS must

examine the range of reasonable alternatives to this facility before DOE makes its decision on which action to take.

Identifying the range of reasonable alternatives is much easier with an explicit statement of purpose and need. On the other hand, a vague statement that fails to set forth the problem DOE is trying to solve in sufficient detail can lead to a range of alternatives that is far too broad to analyze. For example, a statement of purpose and need that refers only to “changes in defense-related program mission” as justification for Department action lacks any criteria for distinguishing reasonable alternatives from unreasonable ones. A statement that is too narrow, however, may exclude reasonable alternatives: as the Green Book points out, it is inappropriate to define the need so narrowly that the proposed action is the only reasonable alternative.

3. Define the no-action alternative accurately. The no-action alternative establishes the baseline against which all other alternatives are compared. It is also the foundation on which the other alternatives are built. It is essential that this alternative be defined correctly. For guidance on properly defining no action, see page 11 in the Green Book and the regulations cited on those pages and pages 7-9. Authors of site-wide EISs should also look at Recommendations on Alternative Actions for Analysis in Site-wide NEPA Reviews (May 26, 1992) (memorandum prepared by Paul L. Ziemer, Ass’t Sec. For EH). In general, the no action alternative should exclude any actions that do not already have NEPA coverage. Coverage does not necessarily require an EIS or EA; CXs, FONSIIs and the ongoing activity exemption can also provide coverage.¹
4. Identify the range of reasonable alternatives. Pages 9-11 of the Green Book contain excellent guidance on how to identify the range of reasonable alternatives. In addition, there is a situation that arises frequently which requires particular care: programmatic and site-wide EISs that also evaluate specific projects. These EISs evaluate issues like waste management or the storage of nuclear materials across sites or programs over long periods of time. Because of their broad scope, they often analyze three or four alternatives that bound the range of reasonableness.

This approach is appropriate. However, sites or programs often have enough information to propose the first specific projects that would begin to address their challenges involving waste management or materials storage. But site-wide and programmatic EISs can have difficulties evaluating a specific project if they rely on bounding alternatives, as these

¹ Keep in mind that the no action alternative probably does not satisfy the need for action and may not ensure compliance with regulatory requirements in the future. In short, the no action alternative in many cases will not be one the Department can pursue: hence the need for action.

alternatives seldom include the range of possible alternatives for a particular project. In such cases, the EIS should contain “subalternatives” for the project if the document is to provide adequate NEPA coverage for it.

There have been several cases where the hybrid nature of an EIS – part site-wide or programmatic, part project-specific – was not recognized until late in the process. This can lead to delay while subalternatives for the project are analyzed in the original EIS, or a separate EIS for the project is prepared.² One way to determine whether you are dealing with a hybrid EIS is to ask people what types of recommendations they would make on the basis of the EIS, or what kinds of records of decision (RODs) could rely on it. If the recommendations or RODs relate to broad actions like defining programs, priorities or configurations, the EIS is probably not a hybrid. If, however, the recommendations include building facilities in addition to defining priorities or programs, the EIS is probably a hybrid and may need to evaluate subalternatives for particular facilities.

5. Circulate the purpose and need statement and descriptions of alternatives to members of the EA or EIS preparation team as soon as possible. The greatest potential for delay is failing to define alternatives correctly. Time spent making sure that alternatives are correctly defined can save enormous amounts of resources. A decision-maker cannot select an alternative that is not evaluated in the EIS or EA; the Department may have an obligation to evaluate a reasonable alternative suggested during the comment period if it is not within the range of alternatives already analyzed. See 40 C.F.R. §§ 1505.1 (e) & 1503.4 (a)(1)-(2); 10 C.F.R. § 1021.210(d). The best way to ensure that the alternatives are correctly defined is to circulate and discuss the statement of need and the descriptions of alternatives, and the schedule should allow sufficient time for this part of the process. It will be time well spent.
6. Identify the important uncertainties in predicting the future: how much waste will be generated, what treatment options will be available, what will be the impacts of these options on the environment, and so forth. In EISs and EAs, uncertainties generally are dealt with by making reasonable assumptions. The document should clearly set forth the important uncertainties and the assumptions the Department made to address them.
7. Provide support for important assumptions. NEPA requires us to identify and compare the environmental impacts of the proposed action and all reasonable alternatives. The proposed action, the alternatives and their impacts are the result of many assumptions about the future and the environment. If the critical assumptions are not supported, it is difficult to

² Although the project-specific EIS can rely or “tier” on site-wide or programmatic EIS for much of its analysis, preparation of yet another EIS can delay DOE’S response to a pressing problem.

argue that we identified all reasonable alternatives and their impacts. One can support assumptions in a number of ways: information, common sense, experience, professional judgment, and sensitivity analysis. Ignoring or hiding important assumptions creates suspicion of the EIS and the Department.

8. Address inconsistencies. Many of the actions evaluated in EISs and EAs are discussed in other documents, such as consent orders, site treatment plans, notices of intent, programmatic EISs, and prior EAs and EISs. It is unlikely that a particular action is described or evaluated the same way in each of these documents. Decision-makers and stakeholders need to know the reasons for any inconsistencies among the analyses, and whether the inconsistencies are significant. Actions may be described differently for many reasons: they have evolved over time, the documents that describe them differ in the level of detail that is appropriate, or additional information has come to light. Authors should examine other documents that describe the actions evaluated in their EIS or EA and address any inconsistencies.

Writing NEPA Documents

NEPA documents “shall be concise, clear and to the point,” and “written in plain language...so that decisionmakers and public can readily understand them.” “Agencies should employ writers of clear prose or editors to write, review or edit” their EISs and EAs. See 40 C.F.R. §§ 1500.2 (b) & 1502.8. “Write documents to inform, not intimidate, the interested public.” Green Book at 41.

These directives require the Department to prepare EISs and EAs that are well written. However, they do not instruct authors on how to write well. One concrete step towards well-written NEPA documents is to ensure that the schedule allows enough time to produce a quality document. Reviewers often receive documents that are hot off the copier. In many cases, different authors write chapters, and it is clear that no one has edited or even read the entire document. Different names are used for the same item; each chapter spells out the same acronyms repeatedly; and, most disturbingly, there are blatant inconsistencies in assumptions or analyses. Document managers must make sure that their schedules allow enough time for review and revision of the entire document by “senior editors” who write well and have read most if not all of the document. Reviewers should not accept schedules that fail to call for a thorough scrubbing before the review begins. DOE must insist that its contractors produce drafts that are complete, accurate and readable: neither field offices nor headquarters have the resources or obligation to turn dross into readable prose.

Below are some additional guidelines that address many of the recurring problems with the prose in EISs and EAs. They are not simply matters of individual taste: these problems make documents exceedingly difficult to read and understand. It is hard to review a document for compliance with NEPA’s requirements if it is incomprehensible.

More importantly, such a document cannot help DOE make better decisions. Authors and editors should follow these guidelines, which are listed in order of importance, as they write and revise EISs and EAs.

1. Use the active voice. The most effective way to increase clarity and shorten sentences is to use the active voice. Compare the following:

A groundwater extraction system was installed in 1983 by DOE.

DOE installed a groundwater extraction system in 1983.

The second sentence is clearer and shorter. The focus is on the actor and its act, not the object that was acted upon. Every reviewer of EISs cites use of the passive voice as the most serious problem in the writing. The three subjects that should appear most frequently in EISs and EAs are “the Department of Energy,” “the Department of Energy,” and “the Department of Energy,” sometimes known as “DOE” or “the Department” (see guideline 2.f. below).

2. Eliminate freight trains. “Freight trains” are strings of three or more nouns, adjectives and gerunds unbroken by a verb or conjunction or preposition. They are a hallmark of technical jargon. The problem with freight trains is identifying which word is the subject and which are modifiers. The reader quickly tires of keeping all these words in the air until something comes along to indicate which word is the important one. Studies show that the reader’s eyes must flash back and forth over these word strings to determine which word is the subject. This is the main reason that technical writing is described as “tiring,” “wordy” or “verbose.” The following are some examples of freight trains taken from EISs:

“Resource Conservation and Recovery Act permit regulations”

“South Carolina Department of Health and Environmental Control (‘SCDHEC’) hazardous waste regulations”

“high dissolved iron concentrations”

“expected case waste generation forecast”

“well sampling purge water”

“nonradioactively contaminated lead shielding”

“waste management activities”

“Savannah River Site waste management environmental impact statement”

“public participation project task objective”

“intermediate-level waste greater confinement disposal engineered trenches”

Technical writers use freight trains for the sake of precision. There are, however, several ways to eliminate freight trains without sacrificing precision. Authors should use these guidelines whenever possible to modify any freight train of three or four words. Freight trains of five or more words are unacceptable and must be revised.

- a. Eliminate unnecessary words. Authors can shorten “waste management activities” to “waste management” in almost every instance without the loss of any information.
- b. Use prepositions. Prepositions indicate which words are the modifiers: “purge water from well sampling”; “high concentrations of dissolved iron”; “the expected forecast of waste generation.”
- c. Use the possessive form. The possessive also indicates modifiers: “the Savannah River Site’s environmental impact statement for waste management.”
- d. Use infinitive and gerund phrases. “activities to manage wastes”; “activities for managing wastes”; “trenches engineered for the greater confinement of intermediate-level wastes.”
- e. Use acronyms and abbreviations. The use of common, easily recognized acronyms and abbreviations can shorten freight trains: “RCRA permit regulations.” But see guideline 5 below.
- f. Use pronouns and shortened forms. In the event that one must use a mouthful such as “the Savannah River Site’s environmental impact statement for waste management,” there is no reason to repeat it verbatim several times in the same paragraph. One can use shortened phrases such as “this statement,” “the EIS for waste management,” or the pronoun “it.”

- g. Think. What is “nonradioactively contaminated lead shielding?” Is it shielding that is contaminated with something other than radioactivity, or shielding that is not contaminated with radioactivity or anything else? The former is “lead shielding contaminated with nonradioactive materials,” the latter is “uncontaminated lead shielding.”
- 3. Use consistent and appropriate nomenclature. Authors and editors should use consistent names for items that appear frequently in their documents. For example, a recent EIS included three forecasts of the amounts of wastes that a site would need to manage in the future. The differences among these forecasts determined to a large degree the impacts of each of the alternatives, so the EIS discussed these forecasts frequently. It was difficult to follow these discussions, however, because the author used different names for these predictions of waste volume: “generation cases,” “waste scenarios,” “waste forecasts” and “future waste loadings.” The document became much clearer once the authors settled on the term “forecast.” In addition, authors should select appropriate names for recurring items: an EIS should not use “scenario” or “case” to refer to an alternative.

Following this guideline does not require that authors use the full name of an item every time they refer to it (see guideline 2.f. above). It does require that authors be consistent in their use of shortened references. For example, an EIS can refer to a “greater confinement trench” simply as a “trench” where the meaning is clear because of prior references. However, the EIS should not refer to it as a “trench” in one section of the document and a “vault” in another.

- 4. Avoid multiple subjects, verbs and objects in a single sentence. There are limits to the amount of information a single sentence can convey. Sentences with strings of nouns, verbs and objects often exceed these limits: “For reactive, corrosive, toxic and/or ignitable wastes, RCRA requires treatment, storage and disposal in compliance with applicable laws, regulations and/or EPA guidelines.” Such sentences should be split into pieces. “RCRA defines four types of characteristic wastes: reactive, corrosive, toxic and ignitable. The act requires that persons treat, store and dispose of these waste in accordance with RCRA’s requirements, which are set forth in regulations, EPA guidelines and the statute itself.”
- 5. Use acronyms and abbreviations sparingly. Authors should spell out every acronym (and most abbreviations) the first time (and

only the first time) it is used. Acronyms and abbreviations that are unique and widely known can shorten sentences without sacrificing precision: “CERCLA,” “RCRA,” “WIPP,” “DOE,” “EPA.” Acronyms for mundane items - - such as TWG for “technical working group” or PMP for “project management plan” - - should be avoided, especially in combination. “The EIS team is responsible for the PMP, and consists of the PM, the CPMs and the TWG,” is a sentence guaranteed to send the reader to the glossary. A few more sentences like this, however, and even the most diligent reader won’t bother.

6. Words and phrases that are misused and overused in EISs.
 - a. “comprises” – Invariably misused; it means “embraces” or “includes.” “An EIS comprises many chapters;” not, “An EIS is comprised of many chapter;” and not, “Several chapters comprise the EIS.”
 - b. “and/or” – Awkward; “or” alone is usually sufficient. The slash “/” is not a punctuation mark and should not be used in text; use it only and sparingly in tables, forms, figures and acronyms.
 - c. “as amended” – Laws are amended frequently. There is no need to note this common occurrence every time a statute is mentioned in an EIS or EA. The only time it is necessary is when the document discusses in detail the effects of a recent amendment on DOE. For example “RCRA, as amended by the Federal Facility Compliance Act, imposes penalties on DOE for....” Even in these cases, the document should not note the amendment every time it mentions RCRA.
 - d. “associated with” – “In,” “at,” “near,” and “of” are shorter.
 - e. “provide” – “Create,” “generate,” “give,” and “make” are good substitutes.
 - f. “considers” – Substitute “examines,” “evaluates,” or “analyzes.”
 - g. “presents” – Can often be omitted. “Presents a description” can be shortened to “describes.”
 - h. “implements” – It seems that DOE never does something; instead, the Department “implements a decision to” do something. This word can often (but not always) be omitted.

Similarly, the following phrases are useless filler that weaken verbs:

1. “resulted in the...” For example, “resulted in the generation of waste” should be shortened to “generated waste.”
 2. “with the objective of...” For example, shorten “with the objective of reducing costs” to “in order to reduce costs” or “to reduce costs.”
 3. “consisted of...” For example, “consisted of an assessment” can be replaced with “assessed.”
 4. “was initiated...” Replace with “started” or “began.”
 5. “serves to...” For example, “serves to provide” is easily shortened to “provides.”
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- i. “utilizes” – “Uses” is better and shorter.
 - j. “interfaces” – Computers interface; people talk, cooperate, work together, discuss, communicate or inform.
 - k. “interacts” – Like “interface,” this is a weak, vague verb that covers everything from cooperating to litigating. Use a more precise verb to describe the relationship between the parties or objects.
 - l. “deinventoried” – “Emptied” or “removed” is better.
 - m. “available information” – The adjective is usually unnecessary; it goes without saying that one cannot use, analyze or rely on information that is unavailable.
 - n. “implementability” – “Feasibility” or “workability” are better words.
 - o. “generated from” – Wastes are generated by or in a process, and at or in a facility. They may come from a process or facility, but they are not generated from a process or facility.
 - p. “disposed” – Wastes are “disposed of” – the preposition is mandatory, even at the end of a sentence.
 - q. “proactive” – This is not a word, it is management jargon. “The Department is being proactive on this issue” means little. Try instead: “The Department wants to resolve this issue” or “The Department is seeking a solution to this issue and would appreciate suggestions from stakeholders.”

- r. “release” (a document) – One “issues” or “publishes” a document.
- s. “prior to” – Use “before.”
- t. “following” – Use “after.”

7. Nouns that do not make good verbs.

There is a growing and noisome trend in the turning of good nouns into bad verbs. Stop it. Some examples of good nouns gone bad when used as verbs: “partner,” “team,” “pilot” (unless one is talking about directing a boat or plane), “dialogue” and “task.” There are verbs that already describe what you are trying to say. For example, “we can discuss the issue,” not “we can dialogue about the issue.”